

In the Claims:

1 1. (original) Method for the measurement of the relative speed
2 (v) of an object, in which the object separation ($d(i)$) of
3 the object is determined cyclically respectively after
4 expiration of a prescribed cycle period (T_c) and the number
5 (z) of the cycles is determined, within which the object
6 separation ($d(i)$) is changed so far that a prescribed
7 separation band (ΔX) is completely traversed, and in which
8 the relative speed (v) of the object is calculated from the
9 difference (Δd) between the object separation ($d(m)$)
10 determined before the entry into the separation band (ΔX)
11 and the object separation ($d(n+1)$) determined after the exit
12 out of the separation band (ΔX) and from the determined
13 number (z) of the cycles.

1 2. (original) Method according to claim 1, characterized in
2 that the measurement of the relative speed is ended and
3 started anew, if, in a certain number (E_{max}) of successive
4 cycles, separation values are determined as object
5 separation ($d(i)$), that differ from the respective
6 preceding separation value by more than a prescribed
7 threshold value (ds).

Claims 3 to 11 (canceled).

1 12. (new) Method according to claim 1, characterized in that a
2 determined speed value (v) is observed unchangeably so long

until the object separation ($d(i)$) determined in a cycle increases relative to the object separation determined in the preceding cycle.

13. (new) Method according to claim 1, characterized in that the object separation ($d(i)$) determined in a cycle is determined through measurement of a pulse transit time (t_e) of a light pulse emitted into a measurement space and reflected back out of the measurement space.

14. (new) Method according to claim 13, characterized in that, for the measurement of the pulse transit time (t_e) of the emitted and back-reflected light pulse, a reception time point (t_r) is determined as time point of the reception of the back-reflected light pulse, in that the back-reflected light pulse is detected for the generation of a reception signal (R), and a time point (t_r) corresponding to the center of gravity point of the reception signal (R) is determined as reception time point (t_r) of the back-reflected light pulse.

15. (new) Method according to claim 14, characterized in that the maximum (r_m) of the reception signal (R) is determined, and in that only a time range (t_a) of the reception signal (R) lying about the maximum (r_m) is used as a basis for the determination of the reception time point (t_r) of the back-reflected light pulse.

1 16. (new) Method according to claim 15, characterized in that
2 the reception time point (t_r) of the back-reflected light
3 pulse is determined only when the maximum (r_m) of the
4 reception signal (R) lies above a prescribed noise level
5 (r_n).

1 17. (new) Method according to claim 16, characterized in that
2 the reception signal (R) or the time range (t_a) of the
3 reception signal (R) used as a basis for the determination
4 of the reception time point (t_r) is reduced by a prescribed
5 noise portion before the determination of the reception
6 time point (t_r).

1 18. (new) Method according to claim 13, characterized in that
2 a temperature compensation is carried out for the reduction
3 of temperature dependent interference components out of the
4 pulse transit time (t_e).

1 19. (new) Method according to claim 13, characterized in that
2 light pulses are emitted into various different spatial
3 sections of the measurement space respectively representing
4 a channel, and in that the back-reflected light pulses are
5 evaluated in a channel-referenced manner.

1 20. (new) Method according to claim 1, further comprising
2 recognizing an imminent collision of a vehicle with an
3 object approaching the vehicle.

[REMARKS FOLLOW ON NEXT PAGE]